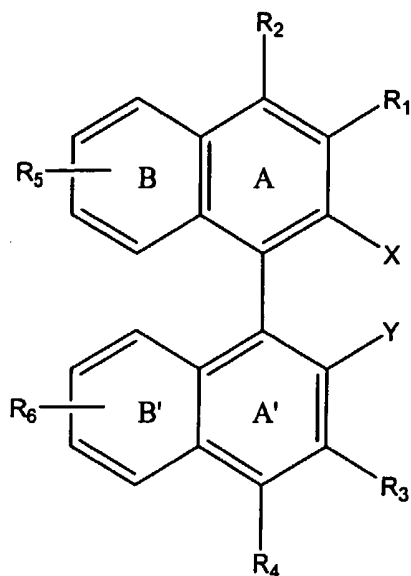


Claims

Claims 1-8 (canceled)

9. (previously presented) The ligand represented by structure 3:



3

wherein

X and Y represent, independently for each occurrence, NR₂, PR₂, AsR₂, OR, or SR;

R, R₁, R₂, R₃, and R₄, for each occurrence, independently represent hydrogen, halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, silyloxy, amino, nitro, sulfhydryl, alkylthio, imine, amide, phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, nitrile, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, azide, aziridine, carbamate, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, or -(CH₂)_m-R₈₀;

R₅ and R₆, for each occurrence, independently represent halogen, alkyl, alkenyl, alkynyl, hydroxyl, alkoxy, silyloxy, amino, nitro, sulfhydryl, alkylthio, imine, amide,

phosphoryl, phosphonate, phosphine, carbonyl, carboxyl, carboxamide, anhydride, silyl, thioalkyl, alkylsulfonyl, arylsulfonyl, selenoalkyl, ketone, aldehyde, ester, heteroalkyl, nitrile, guanidine, amidine, acetal, ketal, amine oxide, aryl, heteroaryl, azide, aziridine, carbamate, epoxide, hydroxamic acid, imide, oxime, sulfonamide, thioamide, thiocarbamate, urea, thiourea, or $-(CH_2)_m-R_{80}$;

the B and B' rings of the binaphthyl core independently may be unsubstituted or substituted with R_5 and R_6 , respectively, any number of times up to the limitations imposed by stability and the rules of valence;

R_1 and R_2 , and/or R_3 and R_4 , taken together optionally represent a ring consisting of a total of 5-7 atoms in the backbone of said ring; of which atoms zero, one or two atoms are heteroatoms; and said ring is substituted or unsubstituted;

R_{80} represents an unsubstituted or substituted aryl, a cycloalkyl, a cycloalkenyl, a heterocycle, or a polycycle;

m is an integer in the range 0 to 8 inclusive; and

the ligand, when chiral, is a mixture of enantiomers or a single enantiomer.

10. **(previously presented)** The ligand of claim 9, wherein:

X and Y are not identical;

R is selected, independently for each occurrence, from the group consisting of alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl, and $-(CH_2)_m-R_{80}$;

R_1 , R_2 , R_3 , and R_4 are selected, independently for each occurrence, from the group consisting of H, alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl, halogen, $-SiR_3$, and $-(CH_2)_m-R_{80}$; and

R_5 and R_6 are selected, independently for each occurrence, from the group consisting of alkyl, heteroalkyl, cycloalkyl, heterocycloalkyl, aryl, heteroaryl, aralkyl, heteroaralkyl, halogen, $-SiR_3$, and $-(CH_2)_m-R_{80}$.

11. **(previously presented)** The ligand of claim 9, wherein X is NR_2 ; and Y is PR_2 .

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Accordingly, the claims are drawn to more than a single invention and restriction as has been required is proper, 37 CFR 1.142(a).

Due to the sheer vastness of the subject matter of claims 9-12 i.e., (the claims that read on the elected embodiment) the following generic concept of claim 9 wherein one of X and Y is PR_2 , and the other is NR_2 , R through R_6 are independently hydrogen, halogen, alkyl, alkenyl and aryl is identified for examination along with the elected embodiment of Example 16. The remaining subject matter of claims 9-12 stands withdrawn 37 CFR 1.142(b) as being for non-elected inventions.

Claim Rejections - 35 U.S.C. § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 9 and dependent claims 10-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.